

Abstract Submitted
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Development of the Q=10 Scenario for ITER on ASDEX Upgrade JOSEF SCHWEINZER, ARNE KALLENBACH, PETER LANG, JOERG STOBER, WOLFGANG SUTTROP, HARTMUT ZOHRM, IPP Garching, ASDEX UPGRADE TEAM — The development of the baseline H-mode scenario foreseen for ITER on the ASDEX Upgrade tokamak, i.e. discharges at $q_{95} = 3$, relatively low β_N , high normalized density n/n_{GW} and high triangularity $\delta = 0.4$, has been focused on the integration of elements foreseen for ITER and readily available on ASDEX Upgrade, such as ELM suppression with RMPs and pellets in combination with a metallic wall. Values for density and energy confinement came simultaneously close to the requirements of the ITER baseline scenario as long as β_N stayed above 2. However, it has been found that stationary discharges are not easily achieved under these conditions due to the low natural ELM frequency occurring at the low q_{95} / high δ operational point. ELM parameters are not always controllable with the tools developed in other scenarios. We will point out the challenges and a possible route for a reliable Q=10 scenario on ITER as well as studies on alternative operational points at higher β_N and q_{95} , relying on the “improved H-mode” scenario and increased n/n_{GW} .

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